



Challenging Aspects of Terahertz Terabit Wireless Communications

Yu, Xianbin; Galili, Michael; Jepsen, Peter Uhd; Oxenløwe, Leif Katsuo

Publication date:
2013

[Link back to DTU Orbit](#)

Citation (APA):

Yu, X., Galili, M., Jepsen, P. U., & Oxenløwe, L. K. (2013). *Challenging Aspects of Terahertz Terabit Wireless Communications*. Abstract from 34th Progress In Electromagnetics Research Symposium, Stockholm, Sweden.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Challenging Aspects of Terahertz Terabit Wireless Communications

(For PIERS 2013 invited talk in Stockholm)

Xianbin Yu, Michael Galili, Peter Uhd Jepsen, Leif K. Oxenløwe

DTU Fotonik, Department of Photonics Engineering, Technical University of Denmark, DK-2800,
Kgs. Lyngby, Denmark

Abstract

The increasing demand on fast wireless communications, e.g. huge data file transferring and mobile broadband access, has driven wireless communication systems into a path towards Terabit era. Terahertz (THz) technology is promising due to its unique features, such as unlimited bandwidth available and minimum human health threat. However, a number of technical challenges need to be overcome to achieve such an ultrafast data rate of Terabit in the THz frequency band. This presentation overview the key technologies and challenging aspects of a THz Terabit communication system, from a system point of view, in terms of THz generation and link power budget. The THz atmospheric absorption is another critical issue to limit wireless communication range.